

CLAIMS:

1. A computerized method for determining a complex computer operation for a computer application, comprising the steps of:
 - (a) traversing a tree of potential complex computer operations; and
 - (b) pruning the tree for optimality under constraints.
2. The method of claim 1, wherein optimality comprises maximization of a function of merit.
3. The method of claim 1, wherein the constraints comprise a convexity constraint.
4. The method of claim 1, wherein the constraints comprise a maximum-input-multiplicity constraint.
5. The method of claim 1, wherein the constraints comprise a maximum-output-multiplicity constraint.
6. The method of claim 1, wherein pruning is effected when a connectivity constraint is violated.
7. The method of claim 1, wherein pruning is effected when a connectivity constraint is violated and gain towards optimality of the maximal connected graph is bounded.
8. A system for determining a complex computer operation for a computer application, comprising:
 - (a) system means for traversing a tree of potential complex computer operations; and

(b) system means for pruning the tree for optimality under constraints.

9. The system of claim 8, wherein the means for pruning comprises system means for maximization of a function of merit of a cut of the tree.

10. The system of claim 8, wherein the means for pruning comprises system means for enforcing a convexity constraint.

11. The system of claim 8, wherein the means for pruning comprises system means for enforcing a maximum-input-multiplicity constraint.

12. The system of claim 8, wherein the means for pruning comprises system means for enforcing a maximum-output-multiplicity constraint.

13. The system of claim 8, wherein the means for pruning comprises system means for pruning when a connectivity constraint is violated.

14. The system of claim 8, wherein the means for pruning comprises system means for pruning when a connectivity constraint is violated and gain towards optimality of the maximal connected graph is bounded.